Installation Guide

Wyse® R Class Conversion to WES2009

Wyse® USB Firmware Tool™ Release 1.13

Products: R10L, R50L, R50LE, R90L, R90LE, R90L7

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Contents

1 Introduction *1*

Kit Contents *1*
Overview *2*
Wyse Technical Support *2*
- Related Documentation and Services *2*
- Wyse Online Community *2*

2 Installing Rx0L Flash and RAM *3*

Requirements *3*
Procedures *4*
What's Next *6*

3 Installing Rx0LE Flash and RAM *7*

Requirements *7*
Procedures *8*
What's Next *11*

4 Installing WES2009 Firmware *13*

Requirements *13*
Procedures *14*
Troubleshooting *20*
- USB Keys - Troubleshooting Boot Issues *20*
- SanDisk Cruiser Flash Drives - Troubleshooting Partition Issues *20*

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1 Introduction

This guide provides the instructions you need to use Wyse® USB Firmware Tool to convert the following Wyse R class thin clients to WES2009:

- R10L
- R50L
- R50LE
- R90L
- R90LE
- R90L7

Caution

WES2009 firmware requires R class thin clients to have a minimum of 2 GB flash and 1 GB RAM.

Note

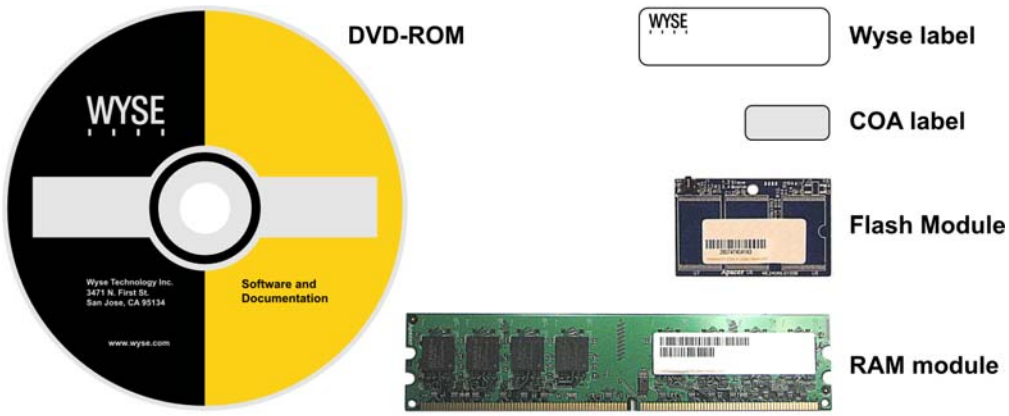
After converting your thin clients, obtain any available firmware update at http://www.wyse.com/serviceandsupport/support/downloads.asp.

Kit Contents

The conversion kit includes:

- *Conversion Software Assembly DVD-ROM*
- *Flash module*
- *RAM module*
- *Wyse Conversion Labels* (you must attach a Wyse label to each converted thin client)
- *Microsoft License Labels* (you must attach a COA label to each converted thin client)

Figure 1 Kit contents (items may look different or not be included in your kit)



The *Conversion Software Assembly DVD-ROM* contains:

- *A PDF of this Installation Guide*
- *Wyse USB Firmware Tool v1.13*
- *RX0L_LE 2G_4G WES2009 Conversion Image* folder containing the following files:
  - bios.img
  - cmos.img
  - commandsXml.xml
  - par1.img
  - initrd.pxe
  - mbr.img
  - vmlinuz

Overview

To convert your R class thin clients to WES2009:

1. (*Optional*) If you need to perform a hardware installation (install new flash or RAM), complete one of the following (depending on your thin client):
   - "Installing Rx0L Flash and RAM"
   - "Installing Rx0LE Flash and RAM"
2. (*Required*) Complete "Installing WES2009 Firmware."

Wyse Technical Support

To access Wyse technical resources, visit http://www.wyse.com/support. If you still have questions, you can submit your questions using the Wyse Self-Service Center at http://support.wyse.com/selfservice.html or call Customer Support at 1-800-800-WYSE (toll free in U.S. and Canada). Hours of operation are from 6:00 A.M. to 5:00 P.M. Pacific Time, Monday through Friday.

To access international support, visit http://www.wyse.com/global.

Related Documentation and Services

Fact Sheets containing the features of hardware products are available on the Wyse Web site. Go to http://www.wyse.com/products/hardware, click the link for your hardware product, and then click the link for the Fact Sheet.

Administrator and other documentation for your thin client model are available at: http://www.wyse.com/manuals.

Wyse Online Community

Wyse maintains an online community where users of our products can seek and exchange information on user forums. Visit the Wyse Online Community forums at: http://community.wyse.com/forum.

2 Installing Rx0L Flash and RAM

This chapter contains information for users of Wyse Rx0L thin clients who must install new flash and/or RAM. If you are installing firmware only, you can skip this chapter and proceed to"Installing WES2009 Firmware."

IMPORTANT:

- For Rx0L users who *do not* need to install new flash, you can skip "Step 2: Install the Rx0L Flash Module."
- For Rx0L users who *do not* need to install new RAM, you can skip "Step 3: Install the Rx0L RAM Module."

Requirements

- Small Phillips screwdriver
- Needle-nose pliers
- (Optional) Container for holding screws

Warning

Flash and RAM modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

Procedures

Step 1: Remove the Rx0L Thin Client Left Side Cover

Caution

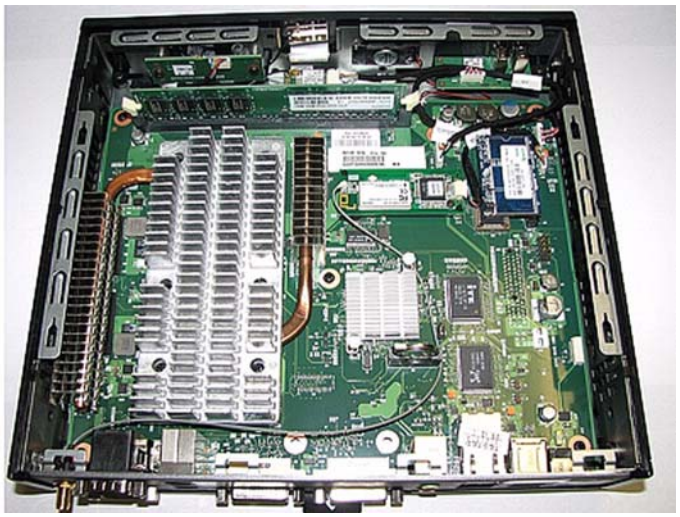
Follow all precautions listed in the Quick-Start Guide that came with your thin client for disconnecting and reconnecting the thin client.

1. Perform a proper shutdown of the thin client by closing all files and ending your session, and then press the power button to turn off the thin client.
2. Unplug the power cord and power adapter, remove all of the cables from the rear of the thin client, and then detach the vertical foot.
3. Position the thin client horizontally, and then remove the screws from the top and bottom of the thin client using a small Phillips screwdriver as shown in Figure 2.

Figure 2 Removing the top and bottom screws

4. Slide the left side cover toward the rear of the device and remove it to expose the main board as shown in Figure 3. Notice that the rear of the thin client is positioned at the bottom of the photo.

Figure 3 Left side cover removed to expose the main board



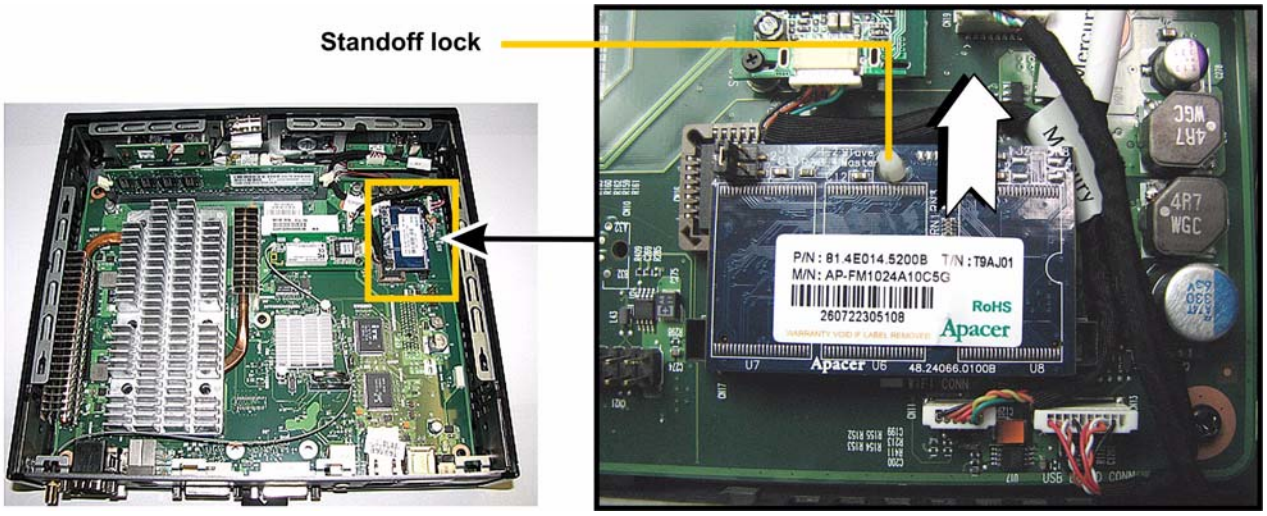
Step 2: Install the Rx0L Flash Module

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

1. Note where the connector of the flash module is located in Figure 4. Use needle-nose pliers to squeeze the plastic standoff lock as you rock the flash module back and forth to remove it from the socket.

Figure 4 Removing the existing flash module



2. Install the new flash module in the reverse order of removing the original flash module. Carefully press the flash module onto the standoff lock and connector, making sure to lock it into place.

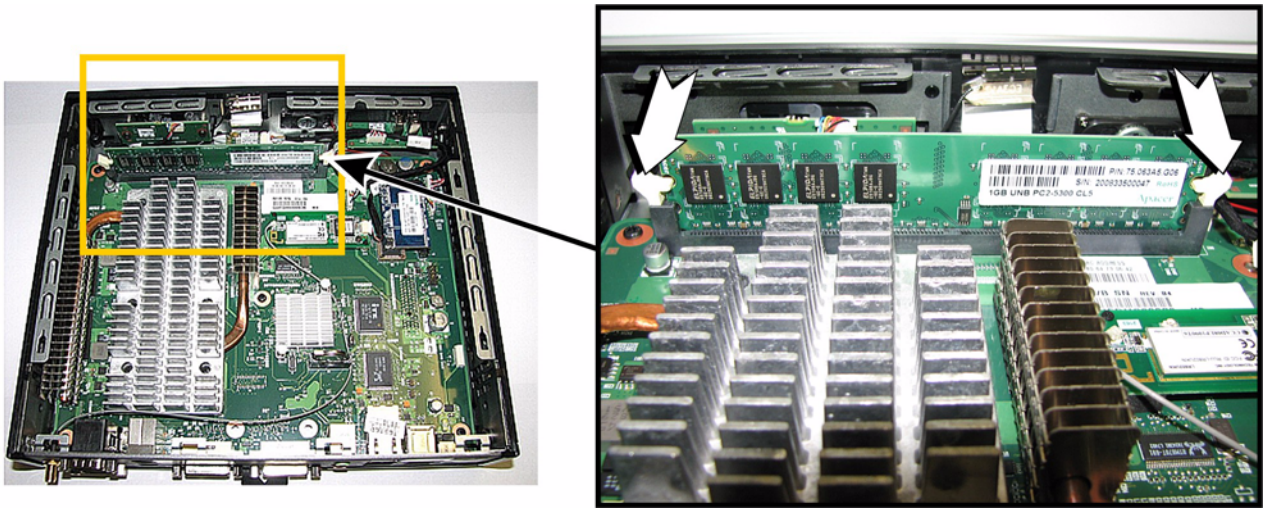
Step 3: Install the Rx0L RAM Module

Warning

RAM modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

1. Unlock the two locking clamps at either side of the RAM module by pushing in the direction of the arrows as shown in Figure 5.
2. Remove the RAM module.

Figure 5 Removing the existing RAM module



3. Insert the new RAM module into the connector of the original RAM module.
4. Carefully press down on the RAM module until the locking clamps lock it into place.

Step 4: Reassemble the Rx0L Thin Client

1. Replace the left side cover in the reverse order as described in "Step 1: Remove the Rx0L Thin Client Left Side Cover."
2. Attach the vertical foot.
3. Reconnect the video display, keyboard, mouse, network cable, and power adapter to the thin client before connecting to an electrical outlet.

Caution

Do not turn on the thin client. The thin client is ready to re-image, however the flash module does not contain an operating system. Turning on power to your thin client without firmware will display the error message “NO OPERATING SYSTEM FOUND.”

What’s Next

Continue with "Installing WES2009 Firmware."

3 Installing Rx0LE Flash and RAM

This chapter contains information for users of Wyse Rx0LE thin clients who must install new flash and/or RAM. If you are installing firmware only, you can skip this chapter and proceed to"Installing WES2009 Firmware."

IMPORTANT:

- For Rx0LE users who *do not* need to install new flash, you can skip "Step 2: Install the Rx0LE Flash Module."
- For Rx0LE users who *do not* need to install new RAM, you can skip "Step 3: Install the Rx0LE RAM Module."

Requirements

- Small Phillips screwdriver
- Needle-nose pliers
- (Optional) Container for holding screws

Warning

Flash and RAM modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

Procedures

Step 1: Remove the Rx0LE Thin Client Left Side Cover

Caution

Follow all precautions listed in the Quick-Start Guide that came with your thin client for disconnecting and reconnecting the thin client.

1. Perform a proper shutdown of the thin client by closing all files and ending your session, and then press the power button to turn off the thin client.
2. Unplug the power cord and power adapter, remove all of the cables from the rear of the thin client, and then detach the vertical foot.
3. Position the thin client horizontally, and then remove the screws from the left side cover of the thin client using a small Phillips screwdriver as shown in Figure 6.

Figure 6 Removing the left side cover screws

4. Slide the left side cover toward the rear of the device and remove it to expose the main board as shown in Figure 7. Notice that the rear of the thin client is positioned at the bottom of the photo.

Figure 7 Left side cover removed to expose the main board

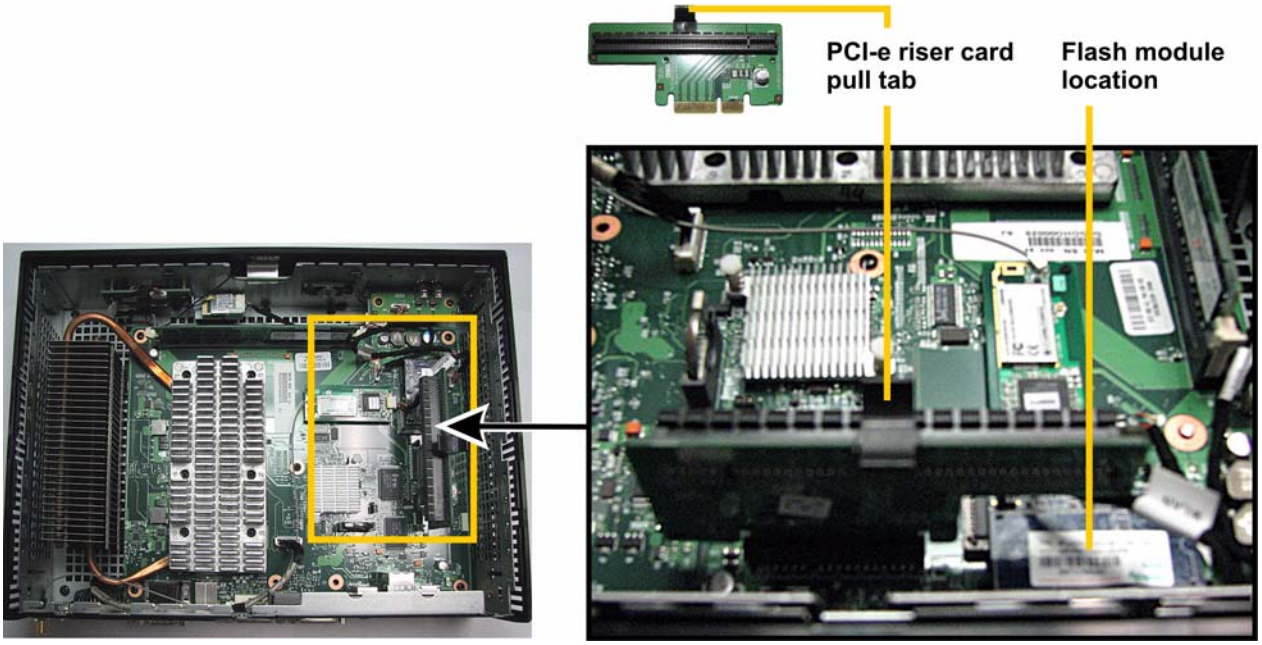
Step 2: Install the Rx0LE Flash Module

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

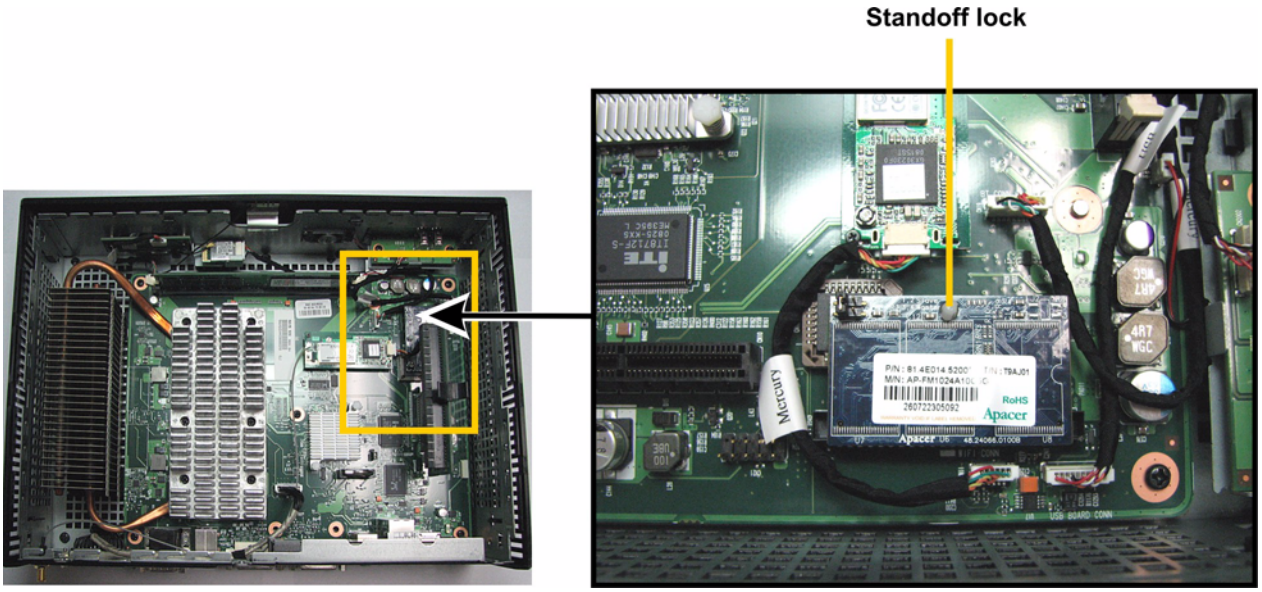
1. To have easy access to the flash module, the PCI-e riser card must be removed first. Using the finger tab, pull the card out of its connector and set aside.

Figure 8 Removing the PCI-e riser card



2. Note where the connector of the flash module is located in Figure 9. Use needle-nose pliers to squeeze the plastic standoff lock as you rock the flash module back and forth to remove it from the socket.

Figure 9 Removing the existing flash module



3. Install the new flash module in the reverse order of removing the original flash module. Carefully press the flash module onto the standoff lock and connector, making sure to lock it into place.
4. Reinstall the PCI-e riser card in the reverse order of removing it.

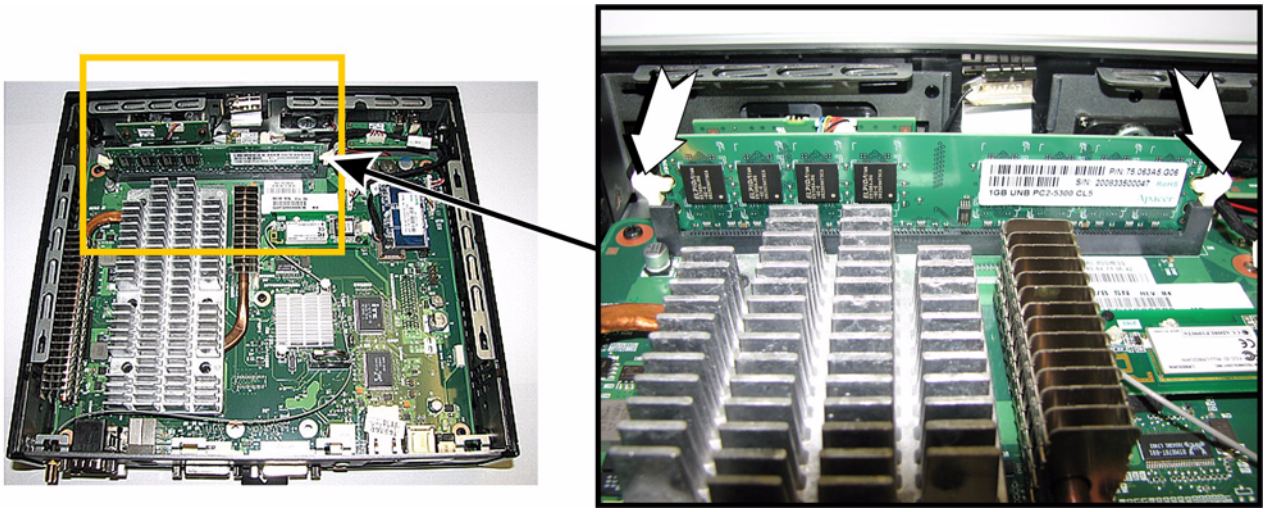
Step 3: Install the Rx0LE RAM Module

Warning

RAM modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

1. Unlock the two locking clamps at either side of the RAM module by pushing in the direction of the arrows as shown in Figure 10.
2. Remove the RAM module.

Figure 10 Removing the existing RAM module



3. Insert the new RAM module into the connector of the original RAM module.
4. Carefully press down on the RAM module until the locking clamps lock it into place.

Step 4: Reassemble the Rx0LE Thin Client

1. Replace the left side cover in the reverse order as described in "Step 1: Remove the Rx0LE Thin Client Left Side Cover."
2. Attach the vertical foot.
3. Reconnect the video display, keyboard, mouse, network cable, and power adapter to the thin client before connecting to an electrical outlet.

Caution

Do not turn on the thin client. The thin client is ready to re-image, however the flash module does not contain an operating system. Turning on power to your thin client without firmware will display the error message “NO OPERATING SYSTEM FOUND.”

What’s Next

Continue with "Installing WES2009 Firmware."

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4 Installing WES2009 Firmware

This chapter includes the requirements and procedures you need to install and use Wyse USB Firmware Tool to update your thin client to WES2009 firmware.

Tip

The purpose of the Wyse USB Firmware Tool is to configure a bootable USB key for device firmware. In the following procedures, you will create a configured USB key containing the firmware contents that you need, and then boot from this configured USB key on appropriate product and flash size devices to push the contents of the USB key onto these *target* devices.

Requirements

- Machine with a minimum of 4 GB of free space running either of the following:
  - Windows XP Professional SP3
  - Windows 2003 Server
  - Windows Server 2008 R2
  - Windows 7 Enterprise (32-bit and 64-bit)
  - Windows 7 Ultimate (32-bit and 64-bit)
- USB key size should be 4 GB or larger (up to 16 GB tested—see "USB Keys - Troubleshooting Boot Issues")

Caution

During the USB key configuration process the USB key will be reformatted.

Procedures

Complete the following procedures as an administrator (administrator privileges are required).

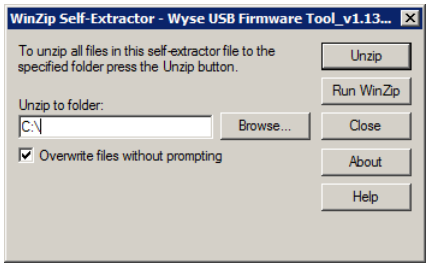
Step 1: Copy the RX0L_LE 2G_4G WES2009 Conversion Image Folder to Your Local Hard Drive

Navigate to the *RX0L_LE 2G_4G WES2009 Conversion Image* folder (contained on the *Conversion Software Assembly DVD-ROM*) and copy it to your local hard drive.

Step 2: Install Wyse USB Firmware Tool 1.13

1. Navigate to the *Wyse USB Firmware Tool v1.13_GA.exe* (contained on the *Conversion Software Assembly DVD-ROM*) and double-click it to execute the file and open the *WinZip Self-Extractor* dialog box.

Figure 11 Extract files to your hard drive (C:\USBFT113)



2. Enter **C:\USBFT113** in the **Unzip to folder** box, and then click **Unzip** to extract all files from the *Wyse USB Firmware Tool v1.13_GA.exe* file into the **C:\USBFT113** directory. The default directory for the extracted files is **Wyse USB Firmware Tool**.

Caution

It is not recommended to use your desktop for the destination directory as there are several files that will be extracted from the .exe file.

3. Create a shortcut on the desktop for the *Wyse USB Firmware Tool.exe* file (see your operating system documentation).

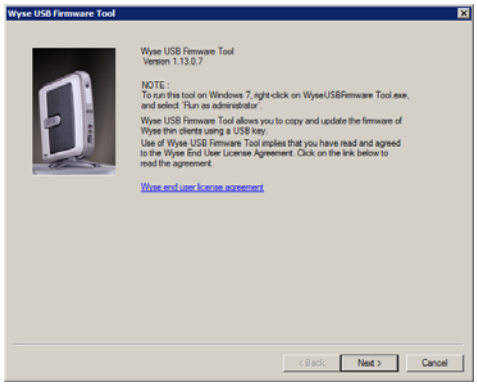
Step 3: Use Wyse USB Firmware Tool to Configure a Single USB Key to Install Firmware

1. Double-click the shortcut on the desktop for the *Wyse USB Firmware Tool.exe* file to run the tool and open the *Wyse USB Firmware Tool* wizard (the welcome page provides the product version and description, and a link to view the Wyse end user license agreement).

Caution

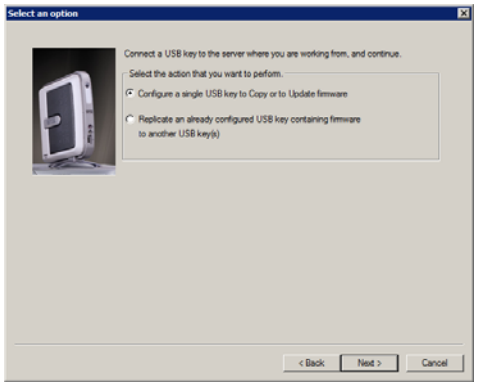
For Windows 7 Enterprise and Windows 7 Ultimate operating systems, be sure to right-click on **Wyse USB Firmware Tool.exe** and select the *Run as administrator* option).

Figure 12 Wyse USB Firmware Tool wizard


Wyse USB Firmware Tool
Wyse USB Firmware Tool
Version 1.13.0.7
NOTE :
To run this tool on Windows 7, right-click on WyseUSBFirmware Tool.exe, and select "Run as administrator".
Wyse USB Firmware Tool allows you to copy and update the firmware of Wyse thin clients using a USB key.
Use of Wyse USB Firmware Tool implies that you have read and agreed to the Wyse End User License Agreement. Click on the link below to read the agreement.
Wyse end user license agreement
< Back
Next >
Cancel

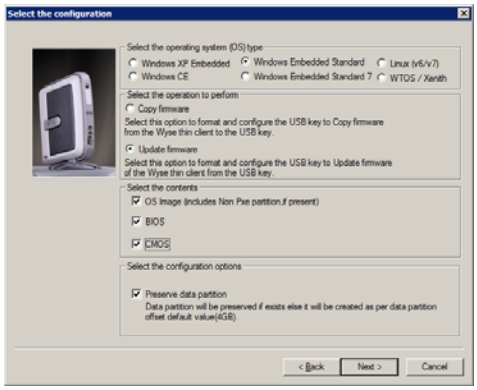
2. Click **Next** to open the **Select an Option** dialog box.

Figure 13 Configuration options


Select an option
Connect a USB key to the server where you are working from, and continue.
Select the action that you want to perform.
Configure a single USB key to Copy or to Update firmware
Replicate an already configured USB key containing firmware to another USB key(s)
< Back
Next >
Cancel

3. Select the **Configure a single USB key to Copy or Update firmware** option, and then click **Next** to open the **Select the Configuration** dialog box.

Figure 14 Update firmware options


Select the configuration
Select the operating system (OS) type
Windows XP Embedded
Windows Embedded Standard
Linux (v6/v7)
Windows CE
Windows Embedded Standard 7
WTOS / Xenith
Select the operation to perform
Copy firmware
Select this option to format and configure the USB key to Copy firmware from the Wyse thin client to the USB key.
Update firmware
Select this option to format and configure the USB key to Update firmware of the Wyse thin client from the USB key.
Select the contents
OS Image (includes Non Pxe partition,if present)
BIOS
CMOS
Select the configuration options
Preserve data partition
Data partition will be preserved if exists else it will be created as per data partition offset default value(4GB).
< Back
Next >
Cancel

4. Select the **Windows Embedded Standard** operating system (OS) type option.
5. Select the **Update Firmware** operation to perform option.

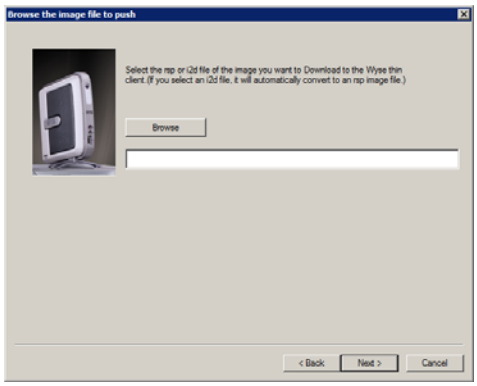
6. (Optional) Leave the default-selected **Preserve data partition** check box (recommended in most cases) unless you *do not* want to preserve any existing custom data partition you have on the thin client (outside of the partition used by the firmware).

Tip

This option is only available for use with thin clients using multiple data partitions totalling 4 GB or larger, allowing you to remove the partition used for custom data that is not write filter protected (this is the custom data partition outside of the partition used for write filter protected firmware).

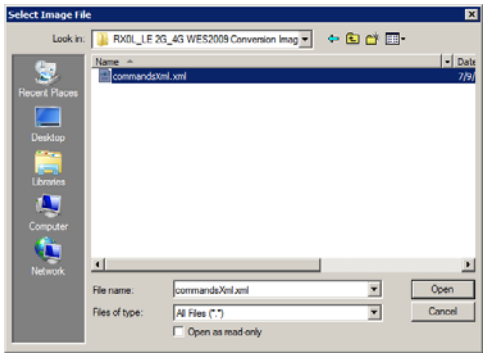
7. Select all three contents options (**OS Image**, **BIOS**, and **CMOS**).
8. Click **Next** to open the browse dialog box.

Figure 15 Browse for image file


Browse the image file to push
Select the rsp or i2d file of the image you want to Download to the Wyse thin client. (If you select an i2d file, it will automatically convert to an rsp image file.)
Browse
< Back
Next >
Cancel

9. Click **Browse**.

Figure 16 Browse to select commandsXml.xml



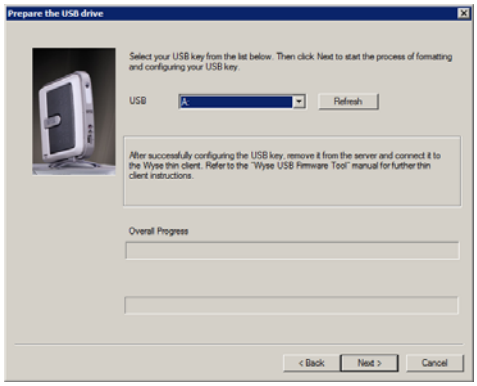
10. Navigate to the *RX0L_LE 2G_4G WES2009 Conversion Image* folder *on your hard drive* (this is the location you selected in "Step 1: Copy the RX0L_LE 2G_4G WES2009 Conversion Image Folder to Your Local Hard Drive"), click on the **commandsXml.xml** file to select it (you may need to select the *All Files* option from the *Files of Type* box to display the **commandsXml.xml** file for selection), and then click **Open**.

Caution

Do not use the **commandsXml.xml** file directly from the *Conversion Software Assembly DVD-ROM*.

11. In the browse dialog box, click **Next** to open the **Prepare the USB Drive** dialog box.

Figure 17 Prepare USB drive


Prepare the USB drive
Select your USB key from the list below. Then click Next to start the process of formatting and configuring your USB key.
USB
A:
Refresh
After successfully configuring the USB key, remove it from the server and connect it to the Wyse thin client. Refer to the "Wyse USB Firmware Tool" manual for further thin client instructions.
Overall Progress
< Back
Next >
Cancel

12. Select the USB key onto which you want the configurations (you can use **Refresh** as needed to recognize an inserted USB key), and then click **Next**. The progress bars show the overall (formatting and configuration) progress and task progress.
13. After configuration, click **Finish** to close the wizard and then remove the configured USB key for use (you will use the configured USB key on your *target* devices).

Tip

At this time you can also *replicate/duplicate* the configured USB key (containing the firmware you want to push) for simultaneous usage on target devices (by users in several locations at the same time). For full Wyse USB Firmware Tool details, see *Users Guide: Wyse® USB Firmware Tool 1.13*.

Step 4: Use the Configured USB Key to Install Firmware on Each Thin Client

In this step, you will boot each thin client you want to convert from the configured USB key so that the USB key will *push the contents from the USB key onto the target device.*

1. Be sure the client is shut down and disconnected from any network.
2. Attach the configured USB key to the client.
3. Power on the client and during boot, press and hold the **P** key.
4. Select the **USB HDD** drive option from the menu (this option also displays the brand of your configured USB key).
5. Press **Enter** and follow the process prompts. When booting a *target* device from the configured USB key (*containing the contents to be pushed to a target device*), you will be prompted to continue with the *push* process (to continue, type **y** and press **Enter**). Once the *push* process is complete, you *must* reboot (press **Enter** and remove the USB key).

Caution

DO NOT interrupt the installation/conversion process. All process requirements are done automatically. Some screens may display for several seconds during the process.

6. After a *target* device completes the installation/conversion process *and displays the WES2009 desktop*, continue with "Step 5: Verifying Thin Client Operation."

Step 5: Verifying Thin Client Operation

After the thin client displays the WES2009 desktop, you can verify the *Version* and that your general client information is correct.

1. On the *General* tab of the *Client Information* window (**Start** > **All Programs > Wyse Client Information**), verify the following:
   - *Product Name* is **Wyse R90LW Thin Client** or **Wyse R90LEW Thin Client**.
   - *Version* is **8.01 (Build 0685.2048)** for the 2-GB flash configuration or **8.01 (Build 0685.4096)** for the 4-GB flash configuration.
   - *Windows WES Version* is **5.01 Service Pack 3**.
2. Click **OK** to close the *Client Information* window. The thin client is ready for operation and setup by an administrator.

Tip

For security, automatic logon to a *User* desktop is enabled on the thin client by default (and is a member of the *User* group; *not* a member of the *Administrator* group). To log on as a different user or an administrator: Use the *Log off* button (**Start > Log off**) to log off the current desktop while holding down the SHIFT key until the *Log On* window displays. Log on as follows (passwords are case sensitive):
Administrators - default *Username* is **administrator** and default *Password* is **Wyse#123**.
Users - default *Username* is **user** and default *Password* is **Wyse#123**.
Administrator and other documentation for your thin client are available at: http://www.wyse.com/manuals.

Step 6: Attach a Wyse Conversion Label and Microsoft License Label on Each Converted Thin Client

The conversion kit is supplied with *Wyse Conversion Labels* and *Microsoft License Labels* that must be attached to each thin client. Be sure you have purchased the amount of labels you need.

Caution

Failure to install the labels may cause delays in service and support. The serial number must be given to a Customer Support Technician to validate entitlement to support and service from Wyse. Failure to do so will result in the original operating system being loaded on the device and is in breach of your license agreement.

Figure 18 Placement of labels on the R10L, R50L, R90L, and R90L7

Figure 19 Placement of labels on the R50LE and R90LE

Step 7: Obtain a Firmware Update

After converting your thin clients, obtain any available firmware update at http://www.wyse.com/serviceandsupport/support/downloads.asp.

Caution

Be sure to select the *R90LW / R90LEW* option in the *Product Downloads Active* box, click **Search**, and then use the *WES R90LW / R90LEW Image* Active Firmware link.

Warning

Use of the Software on more than one device requires that you first purchase from Wyse additional copies of, or licenses to, the Software. Contact your local Wyse distributor or Wyse Inside Sales at 1-800-800-9973 option 1 or 1-408-473-1200 option 1.

Troubleshooting

This section contains general troubleshooting information.

USB Keys - Troubleshooting Boot Issues

Due to different manufacturing processes on USB keys (and the variety of them), not all brands have been tested with the Wyse USB Firmware Tool. If you experience problems booting from a configured USB key, it is recommended that you try a different brand of USB key. The following list of USB keys have been successfully tested with the Wyse USB Firmware Tool:

- Kingston Data Traveler 4 GB
- Kingston Data Traveler 8 GB
- SanDisk Cruzer micro 4 GB
- SanDisk Cruzer micro 8 GB
- SanDisk Cruzer micro 16 GB
- Transcendent 4 GB

SanDisk Cruiser Flash Drives - Troubleshooting Partition Issues

Problem: How can I properly use a SanDisk Cruiser flash drive to image supported devices using the Wyse USB Firmware Tool? (KB17735)

Solution: SanDisk flash drives come with support for U3 (for details on U3, see http://www.u3.com). When you initially use these drives, you are prompted to select the use for the drive: *Apps and Storage* or only *Storage*. If you select the *Apps and Storage* option, the drive will create two partitions, one of which is identified as a CD and is a read only partition. This partition sometimes prevents the Wyse USB Firmware Tool to properly prepare the USB key for imaging a device. To resolve this problem you can do one of the following:

- Go to http://www.sandisk.com, search in the SanDisk Knowledge Base for document **2550**, and then follow the instructions in the documentation.
- Go to http://www.sandisk.com/DriverDownload/driverList.asp, select **USB Flash Drives** from the *Select Product Type* list, click **Find Driver**, select **U3 LaunchPad Remover**, click **Continue**, and then download and use the *U3 Launchpad Remover* according to the instructions.

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Installation Guide

Wyse® R Class Conversion to WES2009

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